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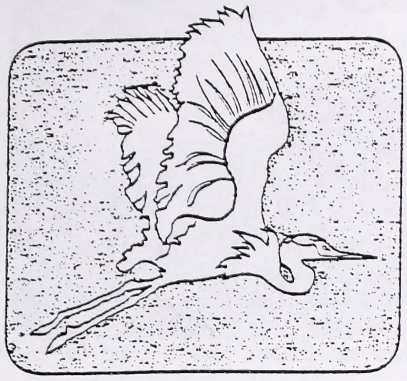


NATURAL AREAS NEWSLETTER

Issue Number 5

January, 1989

EDITOR'S MESSAGE

SEASONS GREETINGS!!

A very productive year has now passed since we initiated the publication of this Newsletter and the establishment of the Volunteer Steward Program.

The response to the Volunteer Steward Program has been overwhelming. Seventy-five indivduals and/or groups are looking after eighty natural areas. When individual stewards within groups are counted there are over 145 people involved.

The article "Steward Happenings" reviews some of the interesting projects that stewards have undertaken or mentioned in their site inspection reports. (Just a gentle reminder to those stewards who have been enrolled for a year and have not yet submitted an inspection report.)

In this edition, we have included a new feature that will profile natural areas. In coming issues we will be alternating this with the steward profile series.

Once again thank you for making this program so successful.

Sandra Myers
Volunteer Steward Co-ordinator

SHERWOOD PARK IS ON THE RIGHT TRAIL !

by Jamie McNeil

On October 1, after a year of preparation, Strathcona County officially opened the Sherwood Park Natural Area trail system and parking lot. Approximately 40 people were on hand to witness Murray Turnbull, Assistant Deputy Minister, Public Lands Division, Alberta Forestry, Lands and Wildlife and Kurt Gesell, acting Reeve of Strathcona County, unveil a beautifully crafted Sherwood Park Natural Area sign. There was also a ribbon cutting ceremony to signify the opening of the newly constructed parking lot and trail system. These developments were made possible by a $5000 grant from the Recreation, Parks and Wildlife Foundation, and additional funding and support from both Strathcona County and the Natural Areas Program of Alberta Forestry, Lands and Wildlife.

The parking lot and trail opening ceremony took place 17 years after the Sherwood Park Natural Area was established by Order-in-Council. Beginning in 1966, adjacent landowner Reg Gray, with the support of the Sherwood Park Fish and Game Association and other neighbours, lobbied to have the land set aside as a natural area. Then in 1969 it was reserved for recreational purposes and excluded from public sale. Finally, in 1971 the Sherwood Park Natural Area was formally established.

Strathcona County holds a recreation lease on the Natural Area and, consequently, has a registered interest in the site. The County works in partnership with the Natural Areas Program to protect and manage the area. David Turner currently assumes the challenging position of both natural area steward and Strathcona County representative. As County representative, Mr. Turner is responsible for coordinating five other individuals: Reg Gray, Ray Cromie, Jean Funk, Kent Lukinuk and Rose Keiller. They have stepped forward to assume the responsibility of natural area stewards with the common goal of protecting the area's natural features and promoting nature-oriented activities.

The strategies to both protect and promote appropriate activities within the Sherwood Park Natural Area will be reflected in the management plan currently being developed. The plan, when completed and approved, will serve as a guide for the future management of the Natural Area. The management team consists of the County representative, the five other natural area stewards and a Natural Areas Program representative.

In most cases, only one or perhaps two people will become stewards for a particular natural area. The fact that six people have become volunteer stewards for the Sherwood Park Natural Area illustrates the importance of this area to county residents. It also shows that Strathcona County has a keen interest in protecting this

vestige of natural state public land which is in close proximity to both Sherwood Park and Edmonton.

STEWARD HAPPENINGS!

Dorothy Dickson along with other volunteers recently constructed an access control fence at Innisfail Natural Area.....**The Red Deer River Naturalists** organized the installation of telephone poles to serve as Great Blue Heron nesting platforms just outside Anderson Creek Natural Area. The poles were dropped into place by helicopter.....**Riverlot 56 Natural Area Society** completed mowing their cross-country ski trails in anticipation of lots of snow this winter.....**Wagner Natural Area Society** installed two donation boxes on site. Please look for these boxes when you visit the natural area. Any contribution would be welcomed by the Society.....**J.J. Collett Foundation** completed a parking lot for their trail system. Funding was obtained through the Recreation, Parks and Wildlife Foundation.....**The Ranchland Black Bears Junior Forest Wardens** conducted a clean-up of Wildcat Island Natural Area.....Based on the detailed disturbance map that **Bob Scott**, volunteer steward for North of Bruderheim Natural Area, submitted with his inspection report, a contract was issued for removal of several abandoned vehicles.....The two volunteer stewards for Beehive Natural Area, the **Alberta Wilderness Association** and **Cowley Forest Products** have worked hard over the past few months as team members for the Beehive Natural Area management plan. The plan is being co-ordinated by the Albert Forest Service.

Thanks to all volunteers who have submitted their inspection reports and to those who have carried out special projects on their sites.

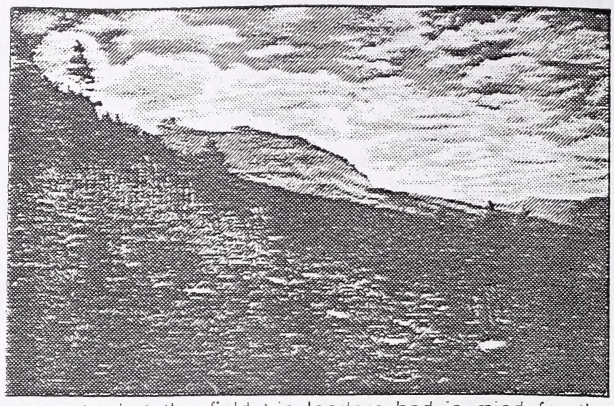
BIG SAGEBRUSH NATURAL AREA FIELD TRIP

by Lorna Allen

Early one July morning we loaded into two vans, supplied by the Natural Areas Program, and headed out to explore the proposed Big Sagebrush Natural Area. By 9:30AM we reached the Beaver Mines Lake campsite, where several other people were waiting to join us. Finally, just after 10:00 AM over thirty people (and two dogs) began the dusty, rough trip down the Southcastle Road to the proposed natural area.

The field trip, sponsored by the Alberta Native Plant Council (ANPC) and the Natural Areas Program, attracted ANPC members, interested individuals and members of a Calgary plant study group led by Olga Droppo. ANPC supplied the leaders (1) Matt Fairbarns, who has conducted a biophysical study of the area, (2) Cliff Wallis, Vice Chairman of ANPC and a noted Alberta ecologist.

July 23, the day chosen for the field trip was perfect, warm and sunny. From the moment we got out of the vans, there were new species to see. The big sagebrush itself, although rare in Alberta, is abundant in the proposed natural area. We wandered around the lower meadows and aspen woodlands, marveling at how lush they are and how different the herbs and shrubs are from those generally found in Alberta. But a pleasant wander



was not what the field trip leaders had in mind for the group.

Most of the proposed Big Sagebrush Natural Area is made up of meadows on steep slopes. It was up to those slopes we headed. We divided into a "low" group and a "high" group; even the low group went several hundred feet up the slope. What a view! Although many of the plants in the meadows were past blooming, the lupines and geraniums were still spectacular, and the saskatoons were delicious. While the "low" group took a leisurely look at these beautiful meadows, the "high" group continued up to the rocky slopes above. There were some comments from this group that climbing gear should have been supplied.

The field trip was a great success; the area spectacular, the variety of plant species amazing and the group enthusiastic. New locations for rare species were found. ANPC was considering becoming the volunteer stewards for the proposed Big Sagebrush Natural Area, so just before we all loaded into the vans to head back to Calgary, we held a vote. The result of the vote was an overwhelming YES.

THE PRESERVATION vs . USE DILEMMA

In the first issue of the Natural Areas Newsletter the "Backgrounder" reviewed the reasons for establishing Natural Areas, explained the difference between reserved and designated areas, and discussed the issue of education versus regulation in providing effective and efficient management. This current article will take a different perspective of managing natural areas and one of the dilemmas that managers face.

The verb "to manage" can be defined as controlling, conducting or directing activities in order to attain a specific result or objective. If we look at natural areas, the legislation identifies two simple but conflicting objectives.

Natural areas are established under the Wilderness Areas, Ecological Reserves and Natural Areas Act. As stated in the Act, the objectives of natural areas are:

1. To protect sensitive and scenic land from disturbance and,
2. To provide public land in a natural state for public use.

continued on page 4

ANIMAL TRACKS

by Bill Richards

Prehistoric etchings on stone and cave paintings show that man has always had a fascination with animals; their signs and tracks. Today, observing animal tracks and signs is still one of the best ways to learn which animals are in a given area and to gain information about their number and habits. Such important information is needed for all Alberta's Natural Areas and is best collected by those using or visiting the site most often.

Tracking and track study are very helpful in this regard, for with tracks we can not only identify the type of animal but, we can also determine where the animal came from and where it is going. Also from the signs left in sand, mud or snow we can tell what the animal was doing and if they were associated with other animals.

As fresh snow reveals the dramatic story of an animal's life quickly and obviously, most people associate animal tracks with snow. But snow is not the best medium for study, even though tracking is made easy. Soft mud or moist sand hold shapes well; whereas snow melts quickly, losing its depth and structure. Flurries and drifting snow will soon obliterate animal tracks. Therefore, it is to your advantage to look for animal signs in the best media the seasons can provide.

In studying tracks it is important to note that not all animals walk on the same portion of the foot. Some animals like the bear (and man) walk on the ventral surface of the whole foot. This is known as plantigrade. Members of the dog and cat family and many others walk on toes only. This type of position is known as digitigrade. Other mammals like deer and moose walk on the tips of toes, which are hoofed. Hoofed mammals are said to be unguligrade.

In part one of this series we will talk about the dog or canid group, of which all members walk on toes, which makes them digitigrade. Their paws are protected by fur and tough pads.

PART I THE CANIDS

The features of a canid's foot print that help distinguish them from other mammals, also make it difficult to distinguish them from other canids. For example dogs (domestic, wolf, fox and coyote) all show claw prints, (unlike members of the cat family), four front pads (toes) and one larger heel pad in their prints. This distinguishes a canid print from other mammal tracks. All canid tracks are longer than wide yet many dog tracks are almost round.

There is no single trait or combination of traits that will absolutely distinguish dogs from wild canids. Rather you must separate them on the summation of all clues, especially those showing behaviour.

DOG

To identify a dog's track there are several things to remember. Dogs do not have to rely on stealth, therefore they tend to walk sloppily. They often place their hind foot directly on the front foot print. Two other very important traits of domestic dogs are: 1) they show little caution and approach objects straight on; 2) dog trails tend to wander and are less purposeful than those of their wild cousins.

COYOTES

The outside pads on the hind feet of a coyote are larger than those of the front pads but on the front foot all four lobes are approximately the same. The outer claws may not always show in a coyote print. An adult coyote may leave a print as large as three inches in length. When looking at a series of tracks remember that coyotes have more of a tendency to maintain the same track spacing than dogs do and this is reflected in their trails. Coyotes show more cunning and awareness of their environment.

A coyote and a dog of similar size will have a different stride; the stride of a dog will be about 25–30 cm (10–12 inches) while the coyote's will be about 30–35 cm (12–14 inches) (see illustration).

RED FOX

There are two main features that separate the fox print from that of all other canids. First the forward pads on each foot are well ahead of the outer pads. That is if you were to draw a line across the two outer pads, behind the claws, the forward pads would be above that line (see sketch). Second the "heel" pad has a distinct ridge shaped like an inverted "V". This ridge, when visible distinguishes the red fox tracks from all other canid tracks. When these are not clear use the same clues regarding cunning and awareness to separate the red fox from a dog. But to separate a fox from a coyote the best method is to measure the width of the trail or straddle. In foxes it is only up to 11 cm (4 1/2 inches) and in coyotes it is up to 15 cm (6 inches).

WOLF

The wolf paw print looks like a large dog print and may be as large as 12 cm (5 inches) long depending on the type of material it was found in. Like all wild canids the wolf has a purposeful, straight gait and uses the same cunning and awareness. Therefore, the primary clues to verification of wolf tracks should be geographic location and size.

This track identification article will be continued for several issues of this Newsletter, with each issue providing a new family or group of tracks. In addition to the sketches and descriptions, here is a short list of references that you may find helpful.

Burt, W.H. and R.P. Grossenheider. 1976. A Field Guide to the Mammals of America North of Mexico.

Muru, O.J. 1974., A Field Guide to Animal Tracks. Second Edition. Houghton Mufflin Company Boston.

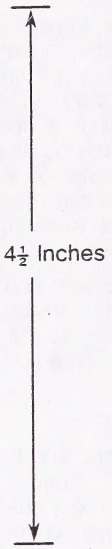
Seton, E.T., 1978. Animal Tracks and Hunting Signs. Laurentian Library Edition.

Bouchner, 1982. A Field Guide in Colour to Animal Tracks and Traces. Octopus Books Ltd., London.

Halfpenny, and Biesiot. 1986. A Field Guide to Mammal Tracking in North America. Johnson Books, Boulder, Colorado.

A. COMPARATIVE CANID TRACKS

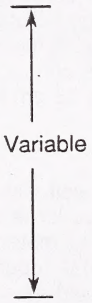
WOLF



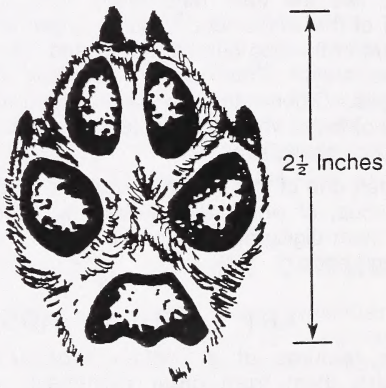
Straddle
Variable for each species

FOX

DOG

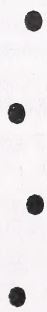


Stride
Variable for each species



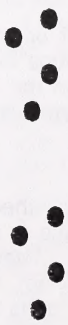
COYOTE

B. TYPICAL GAITS OF CANIDS



Walking Gait

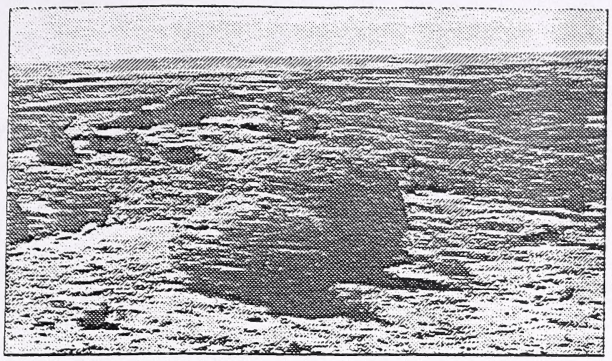
Easy Lope



Gallop

Site Profile: Red Rock Coulee

by John Rintoul



Imagine! Huge red, almost perfectly spherical rocks placed precariously on a vast arid landscape. Taller than a large person, one can envision these rock 'balls' as being chiseled by giants and used as marbles or perhaps as billiard balls on a somewhat slanted pool table. What would the first human, who saw these handicrafts of nature have thought about their origin? The giant red rocks of Red Rock Coulee Natural Area have likely enthralled and perplexed people for many generations.

It was not until recently that geologists concluded that these boulders, up to 2.5m in diameter, are actually sandstone concretions formed under prehistoric waters. It is now thought that such things as shells, leaves or small bones acted like a nucleus, attracting sand particles, calcite and iron oxide crystals that gradually grew larger in the circulating water. These concretions became embedded in the surrounding sediments which hardened into bedrock (Alberta and Bearpaw shales). They were exposed when the softer bedrock was later subjected to erosion. A hike through the boulder field will reveal concretions in various stages of emergence: some are perched on a slope seemingly ready to roll away at the slightest touch or gust of wind, while others are barely protruding above the soil surface.

But take a closer look at these giant rocks. While some are still completely intact others are deeply fissured and some even fractured into several pieces. At a distance they all appear to be of the same iron-red colour: only closer inspection reveals a splattering richness of colours, the result of numerous species of crustose lichens clinging to their surface. Even closer examination will reveal the fine lines of what appear to be concentric growth rings. Look also for marine fossils such as ammonites and small clams embedded in the rocks.

The red rocks are the most distinguishing feature of this natural area and gave rise to the name of the site and the main coulee that drains the area. But there are many more interesting features to this site that make a visit well worthwhile.

Situated at an elevation of 998 m (3275 ft), there are impressive views of the surrounding expansive prairie landscape. Approximately two miles to the southeast is Bulls Head Butte (elev. 1083 m or 3553 ft). This is the most prominent local landscape feature. A look to the south and southwest on a clear day will reveal the unmistakable Sweetgrass Hills in Montana, approximately 112 km (70 miles) away. In between there is a mosaic of cultivated land, with expansive rangeland supporting large herds of cattle closer to the site.

A hike beyond the boulder field into the badlands and hoodoos of the severely eroded coulees is an adventure with many treasures for the keen observer. There are several small tributary coulees of the Red Rock that drain this 328 hectare (810 acre) site to the west into Seven Persons Coulee and eventually north into the South Saskatchewan River at Medicine Hat.

Chances are good that you will see animals such as mule deer and antelope, who use the coulees for protection against the blizzards of winter. Smaller critters like Richardson's ground squirrels and jack rabbits also inhabit this area. Of special interest are species like the prairie rattlesnake, bull snake, horned toad and even a small scorpion that can be found here.

The relatively level, gently dipping uplands are primarily covered by a fescue-needle grass community. This gives way to the sparsely covered slopes of the coulees that support juniper, sage and cactus. Other species of note include broomweed and yellow umbrella plant.

There is much to explore here and every trip will bring new surprises. Enjoy your visit, but please ensure that your activities have minimal impact on this site so that you and others can continue to enjoy it in years to come. Remember, when visiting and exploring any natural area and in particular this one, to be aware of natural hazards, and the presence of wildlife. This is rattlesnake country, look before you take a step, do not reach into any holes or crevices and carefully back away from any rattlesnake that you do encounter. Respecting all wildlife will ensure your safety and their survival.

Getting There!

Red Rock Coulee Natural Area is a short drive (40 km or 25 miles) southwest from Medicine Hat. From the hamlet of Seven Persons on the Crowsnest Highway go 24 km (15 miles) south on secondary road 887. (At this point the road turns east, but you should exit the highway and continue south for 0.8 km (.5 mile) up hill on a gravel road.) Look for site signs and the recently installed large sand-carved cedar designation sign. If you get to the hamlet of Orion you know you have passed the site by approximately 25.5 km (16 miles)!

There are only limited services available in Seven Persons and Mannyberries to the south, so be prepared. Facilities on site include picnic tables and an outhouse. At most times of the year the coulees are dry, so be sure to take something along to quench your thirst. Alberta Forestry, Lands and Wildlife operate a small weather station just south of the picnic area: please do not interfere with this instrumentation.

Editor's Note: There are many sensitive features on this site and there has been occasionally some vandalism. If you are interested, or if you know of someone who may be interested, in becoming a Volunteer Steward for Red Rock Coulee please give me a call.

(continued from page2)

THE PRESERVATION vs . USE DILEMMA

No further guidance for management of natural areas is provided in the Act.

These may seem like fairly clear objectives, that is until individual issues are looked at. If public use in an area has caused the loss of vegetation resulting in erosion, is all use at that point stopped to ensure that the area is in fact protected from disturbance? However the Act also states that natural areas are for "public use"! Should preservation be stressed over use? Should "naturalness" be stressed over active management? These are issues that are not easily resolved.

This problem is at least partially the reason that Natural Areas have, by policy, been divided into three different categories: education, recreation and conservation natural areas. While a site rarely fits clearly into one category and there are always overlaps; generally one aspect of a site stands out above the others. This is used as a guideline to determine the levels and type of use permitted and is decided on a site by site basis.

For conservation natural areas, the emphasis is placed on the protection of the site's features. While some recreation use may occur on the site, its recreation use is not promoted and no facilities or developments for recreation are provided. Generally, the area (site) is not actively managed. Exceptions to this are if some type of active management is required to protect important features within the natural area or to protect the resources on lands adjacent to the natural area. For example, the Mountain Plover, a rare species in Canada, requires heavily grazed areas for nesting sites. The maintenance of nesting habitat for these birds would be a priority for the natural areas on which they occur, so active management in the form of grazing would be required.

Sites that are established to protect sensitive features may require that public use be completely prohibited. Such is the case with the Plateau Mountain Natural Area. The ice cave has had a locked gate placed at the entrance as any public use would quickly destroy the fragile ice crystals and ice features. They are so fragile that body heat, generated by visitors, can be enough to melt the crystals.

For educational natural areas, their value as outdoor classrooms is recognized and educational use of them is encouraged. Limited developments which facilitate that use are accommodated, but only if they do not significantly affect the important natural features of the site. At Wagner Natural Area for example, graveled trails and boardwalks have been developed by the Wagner Natural Area Society. Damage to the fragile, wet ecosystems of the site would have resulted if public use had been permitted without constructing proper trails. Trails only go through a portion of the area, so educational use is facilitated, but the entire site is not affected and the impact is minimized where use does occur.

Recreational natural areas are those sites for which the importance of extensive, non-facility based recreation is recognized as one of their major attributes. These sites contribute to the quality of life for local residents by providing lands on which picnicking, bird watching, hiking, cross-country skiing etc are permitted and encouraged. The sites are still left primarily "natural" but they may have trail networks or other developments which help to enhance the outdoor recreational experience. The Sherwood Park Natural Area is a good example of this type of area. Strathcona County has constructed a system of hiking, cross-country skiing trails and a small parking lot/staging area on this site.

To summarize, the overall philosophy for the management of natural areas is to let "nature take its course". Where developments will not significantly impact the area, and if they will enhance the use of the site for outdoor recreation or education,they are encouraged. Use versus preservation is always an issue. Any decision made favoring one or the other, considers the main objectives for Natural Areas in general, as well as for the individual site, based on the site's capability to accommodate and withstand that use.

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